

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	1972	429/122,209,241.ccls.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
2	BRS	L2	27580	aluminum with (anode (negative adj electrode))	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
3	BRS	L3	6985	catholyte	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT

	Type	L #	Hits	Search Text	DBs
4	BRS	L4	125	(hydrogen adj peroxide) with 3	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
5	BRS	L5	13	2 and 4	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
6	BRS	L6	10	5 and @ad<"20030418"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT

	Type	L #	Hits	Search Text	DBs
7	BRS	L7	15	(sodium adj peroxide) with (catholyte cathode (positive adj electrode))	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
8	BRS	L8	7	7 and @ad<"20030418"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
9	BRS	L9	3	8 and aluminum	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
10	BRS	L10	5	("3330701"   "3879226"   "5783330"   "6569568").PN.	US- PGPUB; USPAT; USOCR

	Type	L #	Hits	Search Text	DBs
11	BRS	L11	1	"6991876".pn. and separator	US- PGPUB; USPAT; USOCR
12	BRS	L12	8	(lithium adj peroxide) with (catholyte cathode (positive adj electrode))	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
13	BRS	L13	3	2 and 8	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
14	BRS	L14	2	catholyte with (hydrogen adj peroxide) with ((lithium potassium sodium) adj peroxide)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT

	Type	L #	Hits	Search Text	DBs
15	BRS	L15	3	catholyte same (hydrogen adj peroxide) same ((lithium potassium sodium) adj peroxide)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERVENT
16	BRS	L16	3295	(hydrogen adj peroxide) same ((lithium potassium sodium) adj peroxide)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERVENT
17	BRS	L17	24	cathode same (hydrogen adj peroxide) same ((lithium potassium sodium) adj peroxide)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERVENT

	Type	L #	Hits	Search Text	DBs
18	BRS	L19	10	17 and "429"/\$.ccls.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
19	BRS	L20	5	19 and @ad<"20030418"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
20	BRS	L21	18	16 and "429"/\$.ccls.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT

	Type	L #	Hits	Search Text	DBs
21	BRS	L22	8	21 and @ad<"20030418"	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
22	BRS	L23	0	"5004654".pn. and (peroxide)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT
23	BRS	L24	0	"5472807".pn. and (peroxide)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWE NT

=> d hist

(FILE 'HOME' ENTERED AT 12:15:28 ON 18 JUL 2007)

FILE 'CAPLUS' ENTERED AT 12:17:03 ON 18 JUL 2007

FILE 'REGISTRY' ENTERED AT 12:17:30 ON 18 JUL 2007  
E POTASSIUM PEROXIDE/CN  
E SODIUM PEROXIDE/CN

FILE 'CAPLUS' ENTERED AT 12:19:05 ON 18 JUL 2007  
S E3

FILE 'REGISTRY' ENTERED AT 12:19:10 ON 18 JUL 2007  
L1 1 S E3/CN

FILE 'CAPLUS' ENTERED AT 12:19:11 ON 18 JUL 2007  
L2 1766 S L1

FILE 'REGISTRY' ENTERED AT 12:19:33 ON 18 JUL 2007  
E POTASSIUM PEROXIDE/CN

FILE 'CAPLUS' ENTERED AT 12:20:15 ON 18 JUL 2007  
S E3

FILE 'REGISTRY' ENTERED AT 12:20:20 ON 18 JUL 2007  
L3 1 S E3/CN

FILE 'CAPLUS' ENTERED AT 12:20:20 ON 18 JUL 2007  
L4 305 S L3  
L5 1904 S L2 OR L4  
L6 8 S L5(S) (CATHODE OR (POSITIVE ELECTRODE))  
L7 13 S (ALUMINUM AL) (S) (ANODE OR (NEGATIVE ADJ ELECTRODE))

=> s 16 and 17

L8 0 L6 AND L7

=> d 17 abs ibib 1-13

L7 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

AB This paper reports the performance of blue color organic light emitting diode (OLED) that were fabricated using 4,4'-bis(2,2'diphenylvinyl)-1,1'-biphenyl (DPVBi) compound. The two-layer devices of the structure ITO/PVK/DPVBi/Al with variation of DPVBi thickness in the range of 20 nm to 65 nm were fabricated. Here the indium tin oxide (ITO) used as anode, poly-9-vinylcarbazole (PVK) as hole transporting layer, 4,4'-bis(2,2'diphenylvinyl)-1,1'-biphenyl (DPVBi) as the blue emitting layer and aluminum (Al) as the cathode. The DPVBi was prepared by thermal evaporation while the PVK film was prepared by spin coating technique. The performance of the device was analyzed through the current-voltage (IV) curve and the electroluminescence spectrum. The device with 56 nm DPVBi layer showed the optimum properties where its emitted light spectrum at peak of 483 nm and it turn-on voltage was 8.0 V.

ACCESSION NUMBER: 2007:95609 CAPLUS

DOCUMENT NUMBER: 146:389928

TITLE: Blue organic light emitting diode (OLED) from two-layer structure of 4,4'-bis(2,2'diphenylvinyl)-1,1'-biphenyl (DPVBi) and PVK

AUTHOR(S): Othman, Mohd Khairy; Salleh, Muhamad Mat

CORPORATE SOURCE: Institute of Microengineering and Nanoelectronics (IMEN), Universiti Kebangsaan Malaysia, Bangi Selangor, 43600, Malay.

SOURCE: ICSE 2004, IEEE International Conference on Semiconductor Electronics, Proceedings, Kuala Lumpur,

Malaysia, Dec. 7-9, 2004 (2004), 411-414. Editor(s): Majlis, Burhanuddin Yeop; Shaari, Sahbudin. Institute of Electrical and Electronics Engineers: New York, N.Y.

CODEN: 69IVSM; ISBN: 0-7803-8658-2

DOCUMENT TYPE:

LANGUAGE:

REFERENCE COUNT:

6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

AB An organic light emitting diode (OLED) is described comprising an organic semiconductor layer (e.g., MEH-PPV, PPV) sandwiched between two semitransparent electrodes, where at least one of the electrodes is perforated. An example OLED utilizes an optically thin gold film anode, whereas the cathode was in the form of an optically thick aluminum (Al) film with patterned periodic subwavelength 2D hole array that showed anomalous transmission in the spectral range of the polymer photoluminescence band. At similar current densities we obtained a seven-fold electroluminescence efficiency enhancement with the patterned Al device compared with a control device based on imperforated Al electrode.

ACCESSION NUMBER: 2006:1095379 CAPLUS

DOCUMENT NUMBER: 145:429128

TITLE: Perforated-electrode organic light-emitting diodes

INVENTOR(S): Vardeny, Zeev Valentina; Liu, Chuanzhen; Kamaev, Vladimir

PATENT ASSIGNEE(S): University of Utah, USA

SOURCE: PCT Int. Appl., 17pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006110926	A2	20061019	WO 2006-US14490	20060417
WO 2006110926	A3	20070308		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
PRIORITY APPLN. INFO.:			US 2005-671659P	P 20050415
			US 2006-404646	A 20060414

L7 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

AB An organic electroluminescence type display apparatus of top emission type, in which a thin film transistor (TFT), a flattening film made of organic resin and an organic EL element, in which at least an anode, an electroluminescence layer and a cathode are laminated on the flattening film in this order, are formed in each picture element in a display region on a substrate. The anode is composed of at least two layer film including an aluminum (Al) alloy film containing as a impurity at least one of transition metals of the eighth group of 3d into Al and including a light transmitting conductive oxide film laminated on the Al alloy film.

ACCESSION NUMBER: 2006:890917 CAPLUS  
DOCUMENT NUMBER: 145:281290  
TITLE: Organic electroluminescence type display apparatus  
with anode showing improved process working property,  
surface flatness, light reflectance, and hole  
injection efficiency  
INVENTOR(S): Nagayama, Kensuke; Ishiga, Nobuaki; Inoue, Kazunori;  
Takeguchi, Toru; Fuchigami, Hiroyuki  
PATENT ASSIGNEE(S): Mitsubishi Denki Kabushiki Kaisha, Japan  
SOURCE: Eur. Pat. Appl., 18pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1696488	A1	20060830	EP 2005-27682	20051216
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
JP 2006236839	A	20060907	JP 2005-51262	20050225
US 2006192481	A1	20060831	US 2005-299906	20051213
KR 2006094867	A	20060830	KR 2006-12453	20060209
CN 1825622	A	20060830	CN 2006-10008807	20060214
PRIORITY APPLN. INFO.:			JP 2005-51262	A 20050225
REFERENCE COUNT:	12	THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L7 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
AB We present a detailed optoelectronic and vibrational study devoted to the transformation from neutral to doped PPV-ether copolymer in both powder and thin film states. The full geometries were optimized with the d. functional theory (DFT) for neutral and doped states, where a comparative geometric study was established. The lowest singlet excited-state geometries have been investigated by using the CI single (CIS/3-21G(d)) method. The absorption spectra are then calculated resp. on the basis of the ground- and excited-state geometries. Our calcn. results are in close agreement with those available from expts. The charge distribution and excitation energies of singly charged PPV-ether are calculated, where two subgap absorption features are found to dominate the optical spectrum correlated with the polaron picture. These theor. results are compared to exptl. optical data illustrated by iodine-doped PPV-ether. Next, we have performed a simulation to model the conformations and the electronic structure modifications of interface formation of PPV-ether copolymer thin film with calcium (Ca), magnesium (Mg), and aluminum (Al ) metal as a cathode and indium tin oxide (ITO) as anode in polymer LEDs. By providing the optical parameter obtained and the chemical reaction at the interface, we present the energetic diagram near the interface and the energy position of the lowest occupied MO with respect to the electrode Fermi level.

ACCESSION NUMBER: 2005:1345640 CAPLUS  
DOCUMENT NUMBER: 144:233710  
TITLE: A Combined Experimental and Theoretical Study on the Effect of Doping and Interface Formation on PPV-Ether Copolymer  
AUTHOR(S): Mabrouk, A.; Alimi, K.; Molinie, P.; Nguyen, T. P.  
CORPORATE SOURCE: Laboratoire des Materiaux, Faculte des Sciences de Monastir, Monastir, 5000, Tunisia  
SOURCE: Journal of Physical Chemistry B (2006), 110(3), 1141-1150  
CODEN: JPCBFK; ISSN: 1520-6106  
PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
AB Self assembled monolayers (SAM) are generally used at the anode/organic interface to enhance the carrier injection in organic light emitting devices, which improves the electroluminescence performance of organic devices. This paper reports the use of SAM of 1-decanethiol ( $H-S(CH_2)_{9}CH_3$ ) at the cathode/organic interface to enhance the electron injection process for organic light emitting devices. Aluminum (Al), tris-(8-hydroxyquinoline) aluminum ( $Alq_3$ ), N,N'-diphenyl-N,N'-bis(3-methylphenyl)-1,1'-diphenyl-4,4'-diamine (TPD) and indium-tin-oxide (ITO) were used as resp. bottom cathode, an emitting layer (EML), a hole-transporting layer (HTL) and top anode. The results of the capacitance-voltage (C-V), c.d.-voltage (J-V) and brightness-voltage (B-V), luminance and quantum efficiency measurements show a considerable improvement of the device performance. The dipole moment associated with the SAM layer decreases the electron Schottky barrier between Al cathode and the organic interface, which enhances the electron injection into the organic layer from Al cathode and a considerable improvement of the device performance is observed. The turn-on voltage of the device fabricated with SAM layer was reduced by 6 V, the brightness of the device is increased by 5 times and the external quantum efficiency is increased by 0.051%.

ACCESSION NUMBER: 2005:1253817 CAPLUS  
DOCUMENT NUMBER: 144:117366  
TITLE: Enhanced carrier injection of organic light emitting devices using self assembled monolayer in the cathode/organic interface  
AUTHOR(S): Manna, U.; Kim, H. M.; Gowtham, M.; Yi, J.; Sohn, Sunyoung; Jung, Donggeun  
CORPORATE SOURCE: School of Information and Communication Engineering, Sungkyunkwan University, Suwon, 440-746, S. Korea  
SOURCE: Thin Solid Films (2005), Volume Date 2006, 495(1-2), 380-384  
CODEN: THSFAP; ISSN: 0040-6090  
PUBLISHER: Elsevier B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
AB Top-emitting organic light-emitting diodes (OLEDs) using aluminum (Al) and nickel (Ni) as the anode and Al as the semitransparent cathode were developed. Hole injection was largely improved by spin coating poly(ethylenedioxythiophene): poly(styrenesulfonate) (PEDOT) on the metal anode. For top-emitting OLEDs with a configuration of metal anode/PEDOT/NPB/ $Alq_3/LiF/Al/Alq_3$ , both devices using Al and Al/Ni anodes showed efficient green light emission with a narrow emission peak. Current efficiency was increased from 4.32 cd A<sup>-1</sup> to 6.45 cd A<sup>-1</sup> when replacing high work function Ni with low work function Al as the anode. A luminance of 20,000 cd m<sup>-2</sup> can be achieved for these top-emitting OLEDs. The device made with the Al/Ni anode showed a low driving voltage and high power efficiency as compared to that made with the Al anode. The improvement on light-emitting efficiency was attributed to balanced charge carrier injection and utilization of the high reflective semitransparent Al cathode.

ACCESSION NUMBER: 2005:1076989 CAPLUS  
DOCUMENT NUMBER: 144:242937  
TITLE: Highly efficient top-emitting organic light-emitting devices with aluminium electrodes  
AUTHOR(S): Xiao, Buwen; Yao, Bing; Ma, Chunsheng; Liu, Shiyong;

CORPORATE SOURCE: Xie, Zhiyuan; Wang, Lixiang  
National Key Laboratory of Integrated Optoelectronics,  
Jilin University, Changchun, 130023, Peop. Rep. China  
SOURCE: Semiconductor Science and Technology (2005), 20(9),  
952-955  
PUBLISHER: CODEN: SSTEET; ISSN: 0268-1242  
Institute of Physics Publishing  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
AB The fabrication of organic light-emitting microdevices (micro-OLEDs) by nanoimprint lithog. (NIL) using diamond molds fabricated by chemical vapor deposition (CVD) was investigated. The diamond molds used in the NIL process were fabricated with the Bi<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub> octylate (oxide) mask used in electron beam lithog. technol. The diamond molds of convex dots of 30 μm square with 60 μm pitch were fabricated. The optimum imprint conditions were found to be as follows: imprinting pressure, press duration, substrate temperature and removal temperature of 0.8 MPa, 15 min, 180° C and 70° C, resp. The device structure of 30-μm-square-dot OLEDs fabricated by imprinting comprises: indium tin oxide (ITO) [anode]/poly(9-vinylcarbazole) (PVK) and Coumarin-6 (C<sub>6</sub>) (0.1 μm thick) [hole transport and emitting layers]/8-hydroxyquinoline-aluminum (Alq) (50 nm thick) [electron transport layer]/aluminum (Al) (0.1 μm thick) [cathode]. The fabrication and operation of micro-OLEDs with 30 μm square dots in diamond-mold NIL were successfully demonstrated.

ACCESSION NUMBER: 2005:599417 CAPLUS  
DOCUMENT NUMBER: 143:295464  
TITLE: Organic light-emitting microdevices fabricated by nanoimprinting technology using diamond molds  
AUTHOR(S): Kiyohara, Shuji; Fujiwara, Makoto; Matsabayashi, Fumio; Mori, Katsumi  
CORPORATE SOURCE: Department of Electronics and Computer Science, Tokyo University of Science, Yamaguchi, 756-0884, Japan  
SOURCE: Japanese Journal of Applied Physics, Part 1: Regular Papers, Brief Communications & Review Papers (2005), 44(6A), 3686-3690  
PUBLISHER: Japan Society of Applied Physics  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
AB We fabricated an organic light-emitting diode using a π-conjugated polymer emissive layer sandwiched between two semitransparent electrodes: an optically thin gold film anode, whereas the cathode was in the form of an optically thick aluminum (Al) film with patterned periodic subwavelength two-dimensional hole array that showed anomalous transmission in the spectral range of the polymer photoluminescence band. At similar current densities, we obtained a sevenfold electroluminescence efficiency enhancement with the patterned Al device compared with a control device based on unperforated Al electrode.

ACCESSION NUMBER: 2005:316592 CAPLUS  
DOCUMENT NUMBER: 143:16124  
TITLE: Efficiency enhancement of an organic light-emitting diode with a cathode forming two-dimensional periodic hole array  
AUTHOR(S): Liu, C.; Kamaev, V.; Vardeny, Z. V.  
CORPORATE SOURCE: Department of Physics, University of Utah, Salt Lake

SOURCE: City, UT, 84112, USA  
Applied Physics Letters (2005), 86(14),  
143501/1-143501/3  
CODEN: APPLAB; ISSN: 0003-6951

PUBLISHER: American Institute of Physics  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT.

L7 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

AB To apply a sacrificial anode cathodic protection system for automotive muffler materials, determination of reliable sacrificial anode and its protection

ability were evaluated by laboratory tests in synthetic condensed water. Three kinds of sacrificial anodes were selected: aluminum (Al), zinc (Zn) and magnesium (Mg), and the muffler materials were Al-coated steel and uncoated steel. The corrosion behavior in synthetic condensed water for the muffler materials and sacrificial anodes was investigated by potentiodynamic tests. The cathodic protection ability was evaluated by galvanic corrosion test and weight-loss test. The results of the potentiodynamic test indicated that Al was less suitable for sacrificial anode because it became passive. Mg was also unqualified due to the high dissoln. rate. However, Zn was adequate for sacrificial anode because of its low dissoln. rate, high stability, and suitable p.d. Results of weight-loss test demonstrated that the corrosion rate of Al-coated steel was reduced from 0.028 to 0.018 mm/yr, and that of uncoated steel was 0.08 to 0.002 mm/yr by coupling with Zn anode. In addition, the proper area ratio of anode to cathode was 1:10. From these results, it can be concluded that Zn anode can protect both the Al-coating with passivation, and steel substrate with low dissoln. rate.

ACCESSION NUMBER: 2005:213705 CAPLUS  
DOCUMENT NUMBER: 143:390725  
TITLE: A study on the sacrificial anode cathodic protection for automobile muffler  
AUTHOR(S): Shin, Dong-Ho; Shim, Jae-Joo; Choi, Yoon-Seok; Kim, Jung-Gu  
CORPORATE SOURCE: Department of Advanced Materials Engineering,  
SungKyunKwan University, Suwon, 440-746, S. Korea  
SOURCE: Taehan Kumsok, Chaeryo Hakhoechi (2004), 42(12),  
1021-1028  
CODEN: TKHABB  
PUBLISHER: Korean Institute of Metals and Materials  
DOCUMENT TYPE: Journal  
LANGUAGE: Korean

L7 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

AB A high-performance organic diode is demonstrated by using C60 sandwiched between a cathode and an anode using metals with different diffusivity and donor ability. In this letter, copper (Cu) and aluminum (Al) are selected as the cathode and anode, resp. C60 is used as the organic electron acceptor for its high stability and high carrier mobility. The as-prepared diode shows poor performance. However, after heat treatment, the Cu/C60 interface becomes an Ohmic contact through Cu diffusion and charge-transfer processes, allowing highly efficient electron injection from the Cu electrode. On the other hand, a rectified C60/Al contact is formed, prohibiting efficient electron injection from the Al electrode into C60. Hence, a high-performance organic diode is formed through a heat treatment process, not by the selection of metals with different work functions. Due to the high mobility of C60, the device shows megahertz frequency response, and it can also handle rather high c.d. (363 A/cm<sup>2</sup> at 2.4 V). This opens the way for the formation of high-performance organic electronic devices.

ACCESSION NUMBER: 2004:444510 CAPLUS

DOCUMENT NUMBER: 141:149211  
TITLE: High-speed and high-current density C60 diodes  
AUTHOR(S): Ma, Liping; Ouyang, Jianyong; Yang, Yang  
CORPORATE SOURCE: Department of Materials Science and Engineering,  
University of California at Los Angeles, Los Angeles,  
CA, 90095, USA  
SOURCE: Applied Physics Letters (2004), 84(23), 4786-4788  
PUBLISHER: CODEN: APPLAB; ISSN: 0003-6951  
DOCUMENT TYPE: American Institute of Physics  
LANGUAGE: Journal  
REFERENCE COUNT: English  
17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
AB The authors demonstrate the operation of an organic switching device using a uniform poly-crystalline Cu:7, 7, 8, 8-Tetracyanoquinodimethane (TCNQ) charge transfer (CT)-complex thin film that was prepared by vacuum vapor codeposition. Characteristic CT-absorption at  $\lambda=600-1200$  nm was observed in the complex film in the UV-visible spectrum and the cyano stretching peak in the IR spectrum shifted to a higher (more than 29 cm<sup>-1</sup>) wave number than that of a pristine TCNQ film, suggesting the formation of a CT-complex in the evaporated thin film. Reproducible elec. switching characteristics were observed in the indium tin oxide/Al/(Al<sub>2</sub>O<sub>3</sub>)/Cu:TCNQ/Al structure. The device exhibited a clear threshold from low impedance to high impedance at an applied voltage of 10.0 ± 2.0 V and a reverse phenomenon at a neg. bias of -9.5 ± 2.0 V a thin Al<sub>2</sub>O<sub>3</sub> layer between the aluminum (Al) anode and Cu:TCNQ layers creates reproducible switching.

ACCESSION NUMBER: 2003:617736 CAPLUS  
DOCUMENT NUMBER: 139:299599  
TITLE: Switching effect in Cu:TCNQ charge transfer-complex  
thin films by vacuum codeposition  
AUTHOR(S): Oyamada, Takahito; Tanaka, Haruo; Matsushige, Kazumi;  
Sasabe, Hiroyuki; Adachi, Chihaya  
CORPORATE SOURCE: Department of Photonics Materials Science, Chitose  
Institute of Science and Technology (CIST), 758-65  
Bibichitose, Hokkaido, 066-8655, Japan  
SOURCE: Applied Physics Letters (2003), 83(6), 1252-1254  
PUBLISHER: CODEN: APPLAB; ISSN: 0003-6951  
DOCUMENT TYPE: American Institute of Physics  
LANGUAGE: Journal  
REFERENCE COUNT: English  
13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
AB Two-layer electroluminescing (EL) devices were constructed employing poly[2-(2'-ethylhexyloxy)-5-methoxy-1,4-phenylenevinylene] (MEH-PPV) and tris(8-hydroxyquinoline)aluminum (Alq<sub>3</sub>). On the indium-tin oxide (ITO) glass anode MEH-PPV layer was first spin-coated, on which the Alq<sub>3</sub> layer and the aluminum (Al) anode were vapor-deposited sequentially. When the thickness of Alq<sub>3</sub> was less than that of MEH-PPV, the device showed the EL emission spectrum originated only from the latter. The devices, however, exhibited the combined EL spectra of MEH-PPV and Alq<sub>3</sub> when latter's layer was thicker than the former layer. The external efficiency for light emission by the double-layer devices was improved by close to two orders of magnitude when compared with efficiency of the MEH-PPV single-layer device, when the thickness of the Alq<sub>3</sub> layer was slightly thicker than that of the MEH-PPV layer. The maximum efficiency obtained was about 0.02%. Current flow in the two-layer devices was limited effectively by the Alq<sub>3</sub> layer and it decreased steadily as the thickness of the Alq<sub>3</sub> layer was increased. The results were discussed on the basis of improved exciton formation

resulting from accelerated and balanced carrier transport.

ACCESSION NUMBER: 2000:345034 CAPLUS  
DOCUMENT NUMBER: 133:177803  
TITLE: Electroluminescence properties of poly[2-(2'-ethylhexyloxy)-5-methoxy-1,4-phenylenevinylene]/tris(8-hydroxyquinoline)aluminum two-layer devices  
AUTHOR(S): Kim, K.; Lee, D. W.; Jin, J.-I.  
CORPORATE SOURCE: Department of Chemistry and Center for Photo- and Electro-Responsive Molecules, Korea University, Seoul, 136-701, S. Korea  
SOURCE: Synthetic Metals (2000), 114(1), 49-56  
PUBLISHER: CODEN: SYMEDZ; ISSN: 0379-6779 Elsevier Science S.A.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN  
AB Al electrodeposits can be prepared from LiH-AlCl<sub>3</sub> electrolytes by using as anode aluminum Al-00 at c.d. 2-3 A/dm<sup>2</sup>

ACCESSION NUMBER: 1970:17780 CAPLUS  
DOCUMENT NUMBER: 72:17780  
TITLE: Electrodeposition of aluminum in an ether-hydride electrolyte  
AUTHOR(S): Levinskas, A.; Sinius, J.; Cesnavicius, A.  
CORPORATE SOURCE: Vil'nyus. Gos. Univ. im. Kapaukasa, Vilnius, USSR  
SOURCE: Elektrokhimiya (1969), 5(10), 1255  
DOCUMENT TYPE: CODEN: ELKKAX; ISSN: 0424-8570 Journal  
LANGUAGE: Russian

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L6 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
AB The invention relates to pos. electrode material of lithium ion battery. The process comprises mixing Fe(II) compound and P compound with oxidant with concentration 0.01-3 mol/L, resp., carrying out reaction at pH 1-8 and 20-100° for 0.5-24 h, filtering, washing, drying at 30-160° to obtain precursor FePO<sub>4</sub> with grain size 100 nm, mixing with Li compound and reductant in a furnace, heating at 1-40°/min in non-oxidative ambient, constant-temperature calcining at 400-800°, and cooling at 1-20°/min or cooling with the furnace to obtain the product. The Fe(II) compound is from ferrous nitrate, ferrous sulfate, ferrous diammonium sulfate, ferrous ammonium sulfate, or ferrous acetate. The P compound is from phosphoric acid, ammonium (potassium, sodium) phosphate, ammonium (potassium, sodium) dihydrogen phosphate, or ammonium (potassium, sodium) hydrogen phosphate. The oxidant is from Na peroxide, hydrogen peroxide, potassium permanganate, or potassium chlorate. The Li compound is from lithium hydroxide, lithium acetate, lithium chloride, lithium sulfate, lithium nitrate, or lithium carbonate. The reductant is from carbon black, acetylene black, graphite, carbon gel, or sucrose.

ACCESSION NUMBER: 2006:695302 CAPLUS  
DOCUMENT NUMBER: 145:191946  
TITLE: Process for preparation of lithium iron phosphate with olivine construction  
INVENTOR(S): Zhu, Bingquan; Li, Xinhai; Wang, Zhixing; Guo, Huajun; Peng, Wenjie; Hu, Qiyang; Zhang, Yunhe  
PATENT ASSIGNEE(S): Central South University, Peop. Rep. China  
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10 pp.  
DOCUMENT TYPE: Patent  
LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1800003	A	20060712	CN 2005-10031116	20050107
PRIORITY APPLN. INFO.:			CN 2005-10031116	20050107

L6 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

AB The active mass comprises a Fe-Na based composite oxide, having a hexagonal crystal structure and exhibiting a value obtained by dividing the intensity of a peak corresponding to an interplanar spacing of 2.20Å by the intensity of a peak corresponding to an interplanar spacing of 5.36Å of ≤2 in the x-ray diffraction anal.; and is manufactured by heating a metal compound mixture mainly containing a Na compound and a Fe compound at 400-900°, which comprises heating the mixture in an inert atmospheric in the temperature range ≤100° on the way of the rise in the temperature. The use of the above active mass allows the manufacture of a battery which is free from the rapid reduction of the discharge voltage with the progress of discharge.

ACCESSION NUMBER: 2005:1106973 CAPLUS

DOCUMENT NUMBER: 143:370057

TITLE: Cathode active mass for secondary nonaqueous electrolyte battery and its manufacture

INVENTOR(S): Yamaki, Jun-Ichi; Okada, Shigeto; Kiyabu, Toshiyasu; Nakane, Kenji

PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan

SOURCE: PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005096415	A1	20051013	WO 2005-JP6117	20050330
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005317511	A	20051110	JP 2005-58537	20050303
EP 1737058	A1	20061227	EP 2005-727878	20050330
R: FR				
CN 1950962	A	20070418	CN 2005-80010295	20050330
PRIORITY APPLN. INFO.:			JP 2004-104338	A 20040331
			WO 2005-JP6117	W 20050330
REFERENCE COUNT:	7	THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L6 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

AB Nickel oxide hydroxide is prepared by exposing an agitated and heated mixture of a nickel hydroxide and a alkali metal hydroxide salt to humidified ozone. The nickel hydroxide can be α- or β-nickel hydroxide, or cobalt hydroxide-coated α- or β-nickel hydroxide. The

product obtained can be  $\beta$ - or  $\gamma$ -nickel oxyhydroxide, or cobalt oxyhydroxide-coated  $\gamma$ - or  $\beta$ -nickel oxyhydroxide. The starting materials are mixed in an inert atmospheric which is substantially free of CO<sub>2</sub> and water. The alkali metal hydroxide can be KOH, NaOH, or LiOH and it can include silver hydroxide or gold hydroxide. The mixture can contain an oxidation-promoting additive, such as Ag, silver oxide, Au, gold oxide, gold hydroxide, potassium peroxide, potassium superoxide, potassium permanganate, or silver permanganate. The nickel hydroxide can be doped with Al, Co, Ga, In, or Bi. The nickel oxyhydroxide is suitable as cathode material of a battery. The cathode can contain an oxidizing additive, such as NaOCl, sodium peroxydisulfate, potassium peroxydisulfate, KMnO<sub>4</sub>, Ba(MnO<sub>4</sub>)<sub>2</sub>, barium ferrate, silver permanganate, Ag<sub>2</sub>O, or AgO. The battery has an anode made of Zn and an electrolyte containing KOH, NaOH, or LiOH. The battery has a capacity loss after storage for 4 wk at 60°C of < 30%.

ACCESSION NUMBER: 2003:737679 CAPLUS  
 DOCUMENT NUMBER: 139:248042  
 TITLE: Preparation of nickel oxide hydroxide by ozonization and its use as cathode material in batteries  
 INVENTOR(S): Christian, Paul A.; Mezini, Tatjana  
 PATENT ASSIGNEE(S): The Gillette Company, USA  
 SOURCE: PCT Int. Appl., 27 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003076339	A1	20030918	WO 2003-US6460	20030304
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2004202931	A1	20041014	US 2002-86807	20020304
US 7081319	B2	20060725		
AU 2003212479	A1	20030922	AU 2003-212479	20030304
EP 1480912	A1	20041201	EP 2003-709419	20030304
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003008168	A	20050104	BR 2003-8168	20030304
JP 2005519021	T	20050630	JP 2003-574568	20030304
CN 1642861	A	20050720	CN 2003-807274	20030304
US 2006159993	A1	20060720	US 2006-387021	20060321
PRIORITY APPLN. INFO.:			US 2002-86807	A1 20020304
			WO 2003-US6460	W 20030304

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB An electricity-generating unit that uses carbon and oxygen as fuel sources is disclosed. In particular, the unit comprises a carbon-containing anode, an electrolyte and a solid state cathode. Heating the unit to temps. of 400-2000° provides an elec. output of at least 1 mW.cm<sup>-2</sup>. A method is given for generating electricity with a unit comprising a carbon-containing anode, an electrolyte and a solid state cathode.

ACCESSION NUMBER: 1999:577144 CAPLUS

DOCUMENT NUMBER: 131:202231  
 TITLE: A carbon-oxygen electricity-generating unit with  
 carbon-containing anode, an electrolyte and a solid  
 state cathode  
 INVENTOR(S): Tao, Tao Thomas  
 PATENT ASSIGNEE(S): CellTech Power, Inc., USA  
 SOURCE: PCT Int. Appl., 39 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9945607	A1	19990910	WO 1999-US4741	19990303
W: CA, JP, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 2002015877	A1	20020207	US 2001-819886	20010328
US 6692861	B2	20040217		
US 2004166398	A1	20040826	US 2003-744231 US 1998-33923 US 2001-819886	20031223 A 19980303 A1 20010328

PRIORITY APPLN. INFO.:

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB The battery comprises an anode of a toward water highly reactive light metal, such as Li or Mg-2% Al alloy, and a cathode of 2 layers bonded with a metal (Ni) mesh. The cathode side facing the anode comprises a conductive, porous hydrophobic material, such as PTFE-bonded hydrophobic active C, and the other side contains an active substance which in reaction with water forms a depolarizing, oxidizer-containing solution. The active substance is Na<sub>2</sub>C<sub>2</sub>O<sub>6</sub>, Na<sub>2</sub>O<sub>2</sub>-K<sub>2</sub>CO<sub>3</sub>, or carbamide peroxide.

ACCESSION NUMBER: 1997:129948 CAPLUS

DOCUMENT NUMBER: 126:133563

TITLE: Primary water-activated battery

PATENT ASSIGNEE(S): Kipnis, Alexander, Germany; Mikhailova, Nina

SOURCE: Ger. Offen., 6 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19522226	A1	19970102	DE 1995-19522226	19950620
DE 19522226	C2	19990325		

PRIORITY APPLN. INFO.: DE 1995-19522226 19950620

L6 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

AB In a method for obtaining an easy-to-handle Raney Ni-type high-activity cathode, a Ni-Al alloy-containing film is formed on an elec. conductive substrate. Then the substrate is treated with alkali to dissolve the Al from the film and dipped in an oxidizing agent solution comprising at least 1 member selected from peroxides, percarbonates, and perborates, so that an active cathode stable in the air can be obtained. The active cathode is protected against degradation in atmospheric air during production or storage.

ACCESSION NUMBER: 1997:67313 CAPLUS

DOCUMENT NUMBER: 126:81263

TITLE: Method of making an active cathode

INVENTOR(S): Kishi, Takamichi; Arimoto, Osamu

PATENT ASSIGNEE(S): Chlorine Engineers Corp., Ltd., Japan  
 SOURCE: Eur. Pat. Appl., 6 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 745700 R: DE, FR, IT	A1	19961204	EP 1996-108512	19960529
JP 08325774	A	19961210	JP 1995-130168	19950529
JP 3664519	B2	20050629		
JP 1995-130168				A 19950529

PRIORITY APPLN. INFO.:

L6 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB The alkaline metal (M)-transition metal (M') oxide materials  $M_xM'_{1-x}O_2$  may be prepared by treating a transition metal hydroxide with an oxidizing alkali metal-containing agent. M' is selected from Ti, V, Mn, Cr, Fe, Ni, and/or Co and  $x = 0.5-1.2$ .  $LiMnO_2$  for Li battery cathodes was prepared by reacting  $Mn(OH)_2$  with  $Li_2O_2$ .

ACCESSION NUMBER: 1996:363574 CAPLUS  
 DOCUMENT NUMBER: 125:15294  
 TITLE: Synthesis method for alkaline metal intercalation materials for secondary batteries  
 INVENTOR(S): Mao, Zhenhau; Newton, Dee  
 PATENT ASSIGNEE(S): Motorola Inc., USA  
 SOURCE: PCT Int. Appl., 17 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9610847 W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG	A1	19960411	WO 1995-US12617	19951002
US 5531920	A	19960702	US 1994-315782	19941003
AU 9537610	A	19960426	AU 1995-37610	19951002
EP 784875 R: DE, FR, GB	A1	19970723	EP 1995-935694	19951002
CN 1163015	A	19971022	CN 1995-195471	19951002
CN 1086846	B	20020626		
JP 10507031	T	19980707	JP 1995-512097 US 1994-315782 WO 1995-US12617	19951002 A 19941003 W 19951002
PRIORITY APPLN. INFO.:				

L6 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
 AB  $NaCl$  (or  $KCl$ ) is fused and electrolyzed in the presence of a fused Pb cathode, to form a mother Pb-Na alloy at  $810-830^\circ$ . The temperature is raised to  $890^\circ$ , and 25-50% of the Na is vaporized and then oxidized with a measured amount of air in an oxidation zone, to produce the solid desired oxide. The apparatus is described in detail. In a typical operation for  $Na_2O$ , the Na vapor entered at a rate of 45 lb./min. and  $890^\circ$  and the air stream at 7.5 lb./min. and  $25^\circ$ . This produced 6.065 lb./min. of  $Na_2O$ . To produce  $Na_2O_2$ , the Na vapor entered at 4.5 and the

air at 15 lb./min. to produce 7.63 lb./min. Na<sub>2</sub>O<sub>2</sub>. The reaction chamber was kept below 1000°. Quantities of other oxides of Na or K can be readily made by using ratios based on the stoichiometric quantities applicable to the oxide.

ACCESSION NUMBER: 1964:50969 CAPLUS

DOCUMENT NUMBER: 60:50969

ORIGINAL REFERENCE NO.: 60:8927g-h

TITLE: Alkali metal oxides

INVENTOR(S): Szechtman, Joshua

PATENT ASSIGNEE(S): Chlormetals Inc.

SOURCE: 7 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3119664	-----	19640128	US 1961-94178	19610308
FR 1357742			FR	
FR 1389050			FR	
PRIORITY APPLN. INFO.:			US	19610308